NanoPC
User's Manual

Trademark:

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Version:

User's Manual V1.2 for NanoPC.

Symbol description:

Note: Refers to important information that can help you to use NanoPC better, and tells you how to avoid problems.

Caution: Indicating a potential risk of hardware damage or physical injury may exist.

WEEE:

The use of this symbol indicates that this product may not be treated as household waste. By ensuring this product is disposed of correctly, you will help prevent potential negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling of this product. For more detailed information about recycling of this product, please contact your local city office, your household waste disposal service or the shop where you purchased this product.

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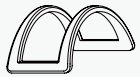
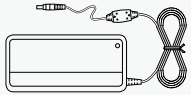
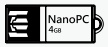
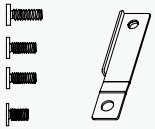
All images are for reference only, please refer to the physical product for specific features.

Safety Notice:

Before using this product, please read the below safety notice carefully, this will help to extend the product's lifecycle, and work normally.

- When NanoPC is working, please make sure its ventilation system is working.
- The power adapter is dissipating heat during normal use, please be sure not to cover it and keep it away from your body to prevent discomfort or injury by heat exposure.
- Please use the power adapter that comes with the product's package, wrong power adapter may damage your device.
- Make sure all the peripherals are properly connected before using NanoPC.
- This product should only be used in an environment with ambient temperatures between 0°C and 40°C.
- Always shut down the computer before installing or uninstalling the peripheral which does not support hot plug.
- Disconnect all peripherals before servicing or disassembling this equipment.
- Please do not disassemble this product by yourself, any disassembly not approved by the original manufacturer may result in malfunction, and void warranty.
- Risk of explosion if battery is replaced by an incorrect type, please dispose of used batteries according to the instructions.

Package Contents

		
NanoPC	Seat Base	VESA Mount
		
Power Adapter	Power Cord	Easy Guide
		
USB Flash Disk	Screws and Mini PCIe Half Card Support Bracket	

NOTE We DO NOT guarantee it is in compliance with the Safety Certificates if you add on an extension cable to NanoPC USB Flash Disk in the package.

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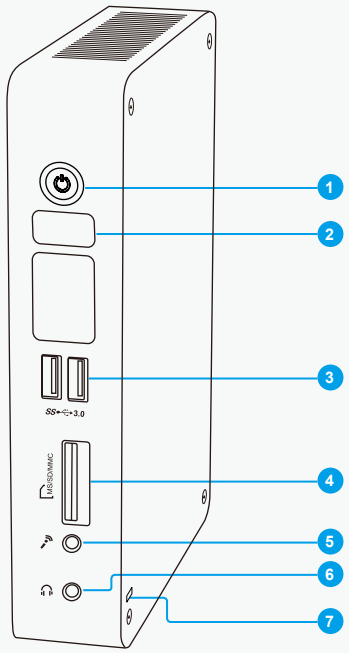
Introduction

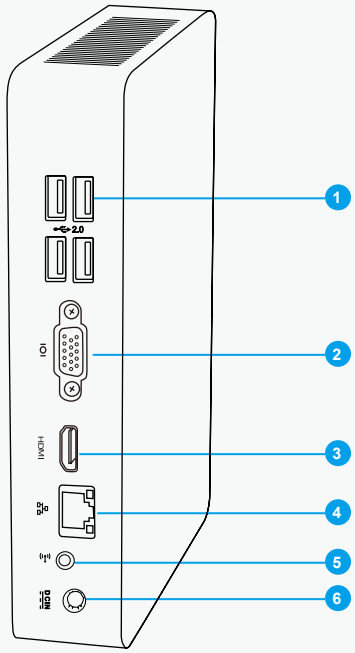
- Front Side View
- Back Side View

1-1 Front Side View



1	⏻	Power button with Power indicator LED Press to turn your NanoPC on or off, the LED can indicate your system states.
2		Speaker
3	SS 3.0	USB 3.0 port This USB port supports the USB 3.0/2.0/1.0 specification. Use this port for USB devices such as keyboard, mouse, USB printer, USB flash drives and hard disk drives, etc. You need to install the USB 3.0 driver in NanoPC USB Disk before using it.
4	MS/SD/MMC	Multi-Function card reader This memory card reader supports SD/SDHC/MS/MS Pro/MMC memory cards used in devices like digital cameras, mobile phones, Media players and so on.
5		Microphone / SPDIF in port Connects to a microphone or playback devices with optical connectors (3.5mm jack). SPDIF function requires additional adapter and adapter cable.
6		Headphone Connects to a headphone.
7		Kensington lock Attach a Kensington security system or a compatible security lock to secure your NanoPC in place.

1-2 Back Side View



1	⇐2.0	USB 2.0 port This USB port supports the USB 2.0/1.0 specification. Use this port for USB devices such as keyboard, mouse, USB printer, USB flash drives and hard disk drives, etc.
2	IOI	VGA Port Connect VGA-compatible displays such as a monitor or projector.
3	HDMI	HDMI port The HDMI (High-Definition Multimedia Interface) port supports Full-HD display devices. Connect monitor or TV that uses HDMI connector to this port.
4		RJ-45 LAN port Supports 10/100/1000Mb/s Ethernet network. Connect network cable to access Internet.
5		Line out / SPDIF out port Connects to powered analog speakers or recording devices with optical connectors (3.5mm jack). SPDIF function requires additional adapter and adapter cable.
6	DC IN	Power input port Connect power cord that come with your product.

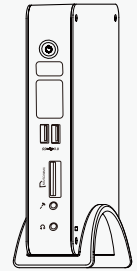
Placement and connecting

- Placement of NanoPC
- Connection of NanoPC

2-1 Placement of NanoPC

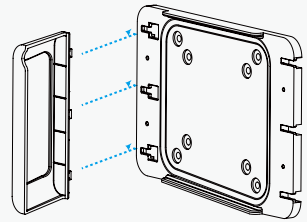
Erected on the desk

1. Place your NanoPC into the groove of the Seat Base.

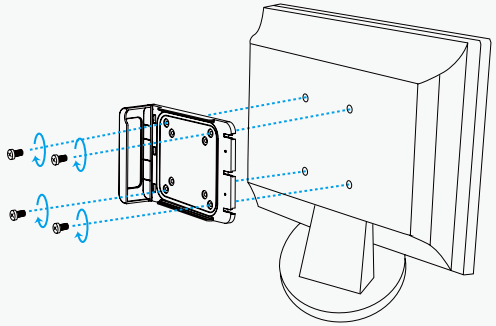


Installing to Display

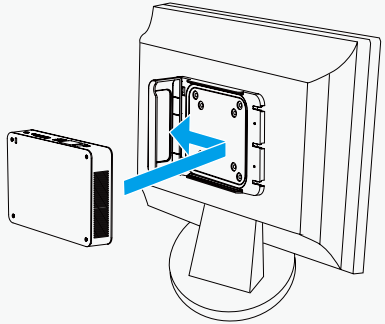
1. Assemble one side of the VESA mount.



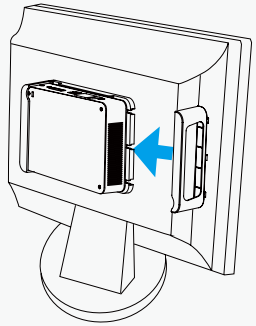
2. Fasten it onto the display with four screws.



3. Fit the NanoPC into the VESA mount in the correct alignment.



4. Install the other side of the VESA mount.

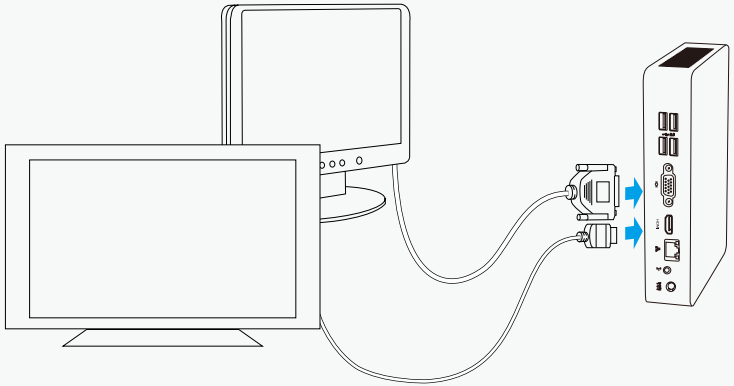


NOTE To fasten the VESA mount, your display must comply with VESA75 or VESA100 standard.

2-2 Connection of NanoPC

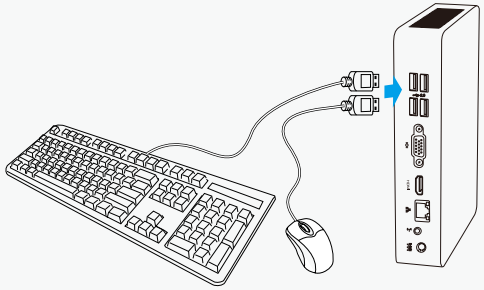
Connect display

Connect a display or TV that has HDMI port or VGA port to your NanoPC.



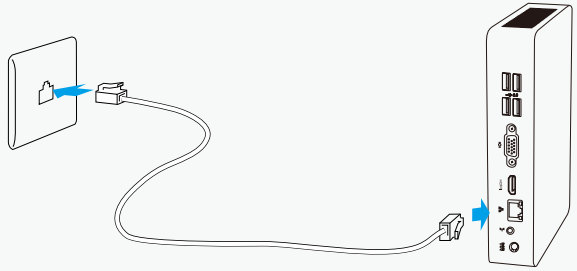
Connect USB devices

Connect USB devices to the USB ports, for example, mouse, keyboard devices.
There are two USB 3.0 ports on the front side of your NanoPC, you need to install the USB 3.0 driver in NanoPC USB disk before using them.



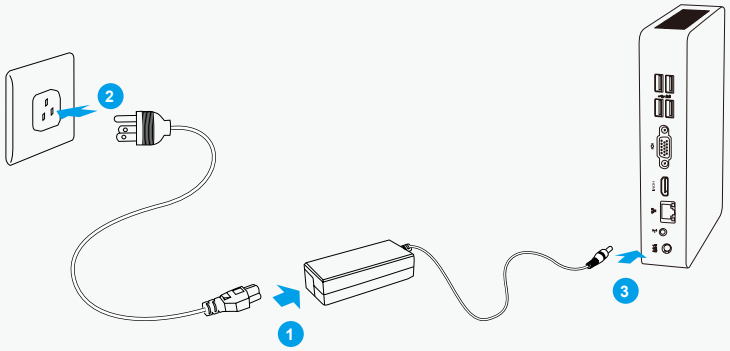
Connect network cable

Connect one end of a network cable to the RJ-45 LAN port, and the other end to a hub or switch.



Connect power cord

Connect the power adapter to the power input port of the NanoPC, and then press the power button to start it.



CAUTION

The power adapter is dissipating heat during normal use, please do not cover it and keep it away from your body to prevent injury from heat exposure.

BIOS Setup

- Enter BIOS Setup
- Main
- Advanced
- Power
- Security
- BootOptions
- Save & Exit

Enter BIOS Setup

The BIOS is the communication bridge between hardware and software, correctly setting up the BIOS parameters is critical to maintain optimal system performance. Power on the computer, when the message

"Press <Del> to enter setup. Press <F11> to enter boot menu."

appears at the bottom of the screen, you can press <Del> key to enter Setup.

NOTE We do not suggest that you change the default values in the BIOS Setup, and we shall not be responsible for any damage which resulted from the change you made.

Use the arrow right/left keys to select a specific function and go to the submenu. Each function is explained below:

Main

It displays the basic system configuration, such as CPU Name, memory size, system date, time and so on. They all can be viewed or set up through this menu.

Advanced

The advanced system features can be set up through this menu.

Power

All the items related with Green function features can be setup through this menu.

Security

The Administrator/User password can be set up through this menu to prevent unauthorized use of your computer. If you set a password, the system will ask you to key in correct password before boot or access to Setup.

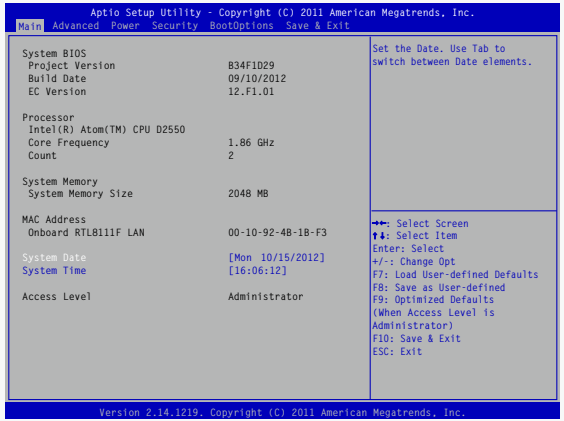
BootOptions

Boot features can be set up through this menu. You can set the boot device priority and enable "Quiet Boot" feature here.

Save&Exit

The optimal performance settings can be loaded through this menu. However, it may offer better performance in some ways (such as less I/O cards, less memory ...etc.), still, it may cause problem if you have more memory or I/O cards installed. It means, if your system loading is heavy, set to optimal default may sometimes come out an unstable system. What you need now is to adjust BIOS setting one by one, trial and error, to find out the best setting for your current system. You also can save or discard the changes and exit BIOS setup here.

Main



► System Date

<weekday><month><date> <year> format.

Day—weekday from Sun. to Sat., this message is automatically displayed by BIOS (Read Only).

Month—month from 1 to 12.

Date—date from 1 to 31.

Year—year, set up by users.

Use [ENTER], [TAB] or [SHIFT-TAB] to select a field. Use [+] or [-] to input the value.

► System Time

This item allows you to configure the desired time. Use [ENTER], [TAB] or [SHIFT-TAB] to select a field. Use [+] or [-] to input the value.

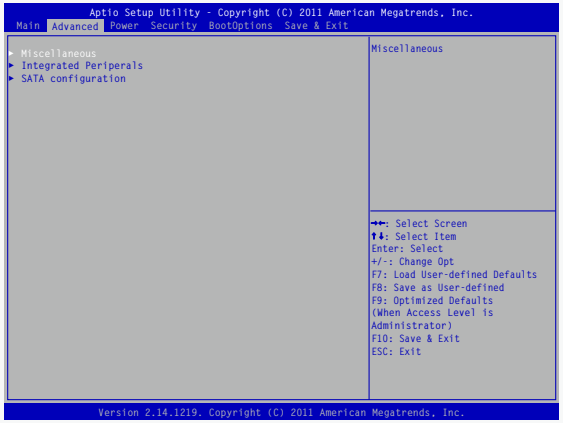
The three fields of the setting are <hour> : <minute> : <second> respectively.

► Access Level

It displays your current access level. If you enter system with a user password, it will display "User". If

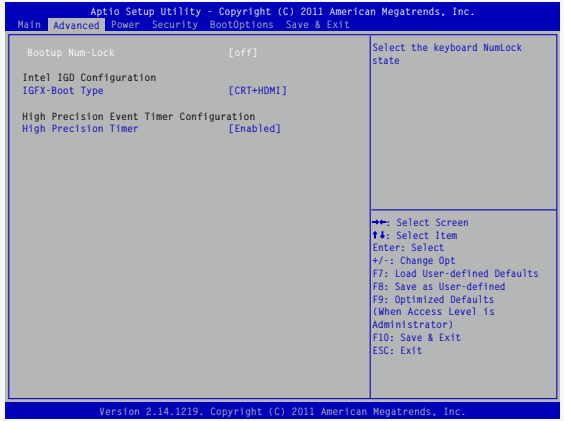
no password is set or you enter system with administrator password, this item will display “Administrator”.

Advanced


Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.
Main Advanced Power Security BootOptions Save & Exit
► Miscellaneous
► Integrated Periperals
► SATA configuration
Miscellaneous
→←: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt
F7: Load User-defined Defaults
F8: Save as User-defined
F9: Optimized Defaults
(When Access Level is Administrator)
F10: Save & Exit
ESC: Exit
Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.

► Miscellaneous/Integrated Periperals/SATA configuration
Press<Enter>to go to relative submenu.

Miscellaneous

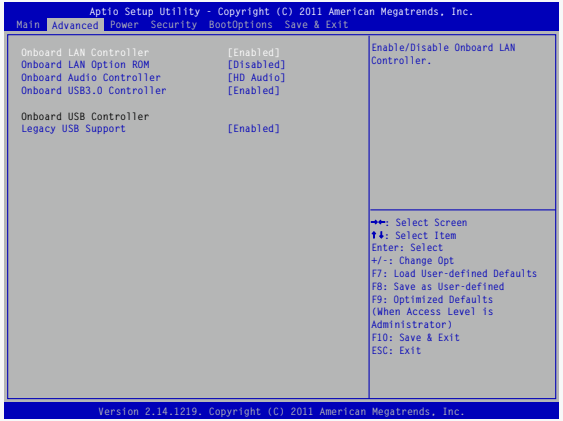

Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.
Main Advanced Power Security BootOptions Save & Exit
Bootup Num-Lock [off]
Intel IGD Configuration
IGFX-Boot Type [CRT+HDMI]
High Precision Event Timer Configuration
High Precision Timer [Enabled]
Select the keyboard NumLock state
→←: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt
F7: Load User-defined Defaults
F8: Save as User-defined
F9: Optimized Defaults
(When Access Level is Administrator)
F10: Save & Exit
ESC: Exit
Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.

► Bootup Num-Lock
This item defines if the keyboard Num Lock key is active when your system is started. The available settings are: On and Off (default).

► IGFX-Boot Type
This item is used to select Onboard Graphic output screen. Available value:[CRT] or [HDMI] or [CRT+HDMI].

► High Precision Timer
This item is used to enable or disable the high precision timer.

Integrated Peripherals


Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.
Main Advanced Power Security BootOptions Save & Exit
Onboard LAN Controller [Enabled]
Onboard LAN Option ROM [Disabled]
Onboard Audio Controller [HD Audio]
Onboard USB3.0 Controller [Enabled]
Onboard USB Controller
Legacy USB Support [Enabled]
Enable/Disable Onboard LAN Controller.
→←: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt
F7: Load User-defined Defaults
F8: Save as User-defined
F9: Optimized Defaults
(When Access Level is Administrator)
F10: Save & Exit
ESC: Exit
Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.

► Onboard LAN Controller
This item is used to enable or disable the onboard LAN controller.

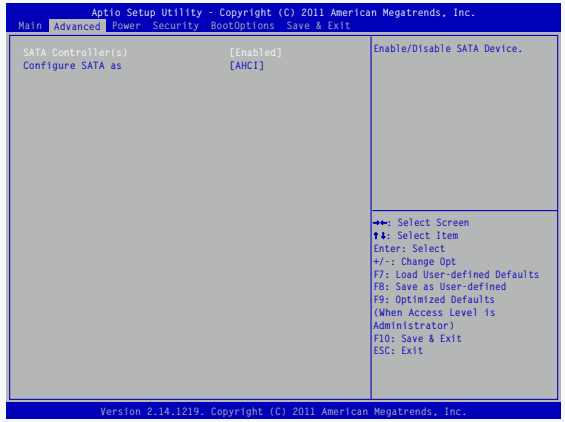
► Onboard LAN Option ROM
This item is used to enable or disable the onboard LAN Option ROM.

► Onboard Audio Controller
This item is used to enable or disable the onboard audio controller.

► Onboard USB3.0 Controller
This item is used to enable or disable the onboard USB3.0 Controller.

► Legacy USB Support
This item is used to enable the support for USB devices on legacy OS. If you have a USB keyboard or mouse, set to enabled.

SATA Configuration


Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.
Main Advanced Power Security BootOptions Save & Exit
SATA Controller(s) [Enabled]
Configure SATA as [AHCI]
Enable/Disable SATA Device.
→←: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt
F7: Load User-defined Defaults
F8: Save as User-defined
F9: Optimized Defaults
(When Access Level is Administrator)
F10: Save & Exit
ESC: Exit
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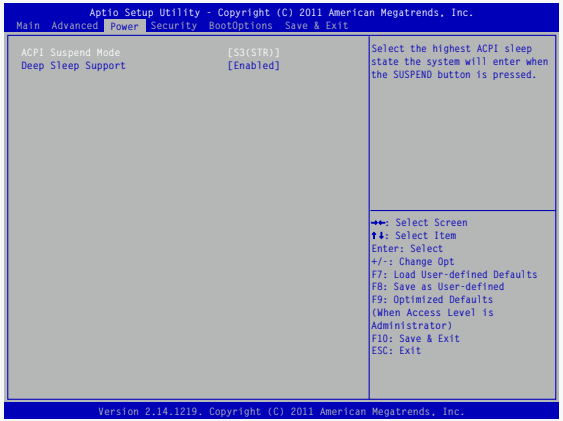
► SATA Controller(s)
[Disabled] : Disable SATA Controller.
[Enabled] : Enable SATA Controller.

► Configure SATA as
This item is used to set the operation mode of your SATA ports.
[IDE] - This configures the SATA ports to support IDE mode.
[AHCI] - The Advanced Host Controller Interface (AHCI) specification describes the register level interface for a Host Controller for Serial ATA. The specification includes a description of the hardware/software interface between system software and the host controller hardware. AHCI provides more advanced features including SATA features, but some SATA drives may not support AHCI, unless they are labeled with AHCI support in its specification.
If your motherboard supporting AHCI, and you have a SATA device, which also supports AHCI, then you can select IDE option to have fair performance, or you can select AHCI to get its best performance.

Power


Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.
Main Advanced Power Security BootOptions Save & Exit
ACPI Suspend Mode [S3(STR)]
Deep Sleep Support [Enabled]
Select the highest ACPI sleep state the system will enter when the SUSPEND button is pressed.
→←: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt
F7: Load User-defined Defaults
F8: Save as User-defined
F9: Optimized Defaults
(When Access Level is Administrator)
F10: Save & Exit
ESC: Exit
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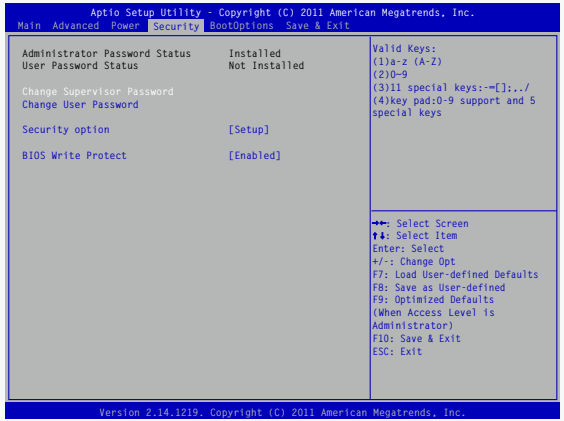
► ACPI Suspend Mode
This item is used to set the energy saving mode of the ACPI function. When you select “S1 (POS)” mode, the power is always on and computer can be resumed at any time. When you select “S3 (STR)” mode, the power will be down after a period of time. The status of the computer before it entering STR will be saved in memory, and the computer can quickly return to previous state when the STR function wakes.

► Deep Sleep Support
This item is used to enable or disable Deep Sleep Support function. When entering deep sleep mode system(S4/S5) only can wake up from power button.

► Restore on AC Power Loss
This item appears when “Deep Sleep Support“ is set to “Disabled“. It is used to set which state the PC will take with when it resumes after an AC power loss.

Security


Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.
Main Advanced Power Security BootOptions Save & Exit
Administrator Password Status Installed
User Password Status Not Installed
Change Supervisor Password
Change User Password
Security option [Setup]
BIOS Write Protect [Enabled]
Valid Keys:
(1)a-z (A-Z)
(2)0~9
(3)11 special keys:-=[];,./
(4)key pad:0-9 support and 5 special keys
→←: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt
F7: Load User-defined Defaults
F8: Save as User-defined
F9: Optimized Defaults
(When Access Level is Administrator)
F10: Save & Exit
ESC: Exit
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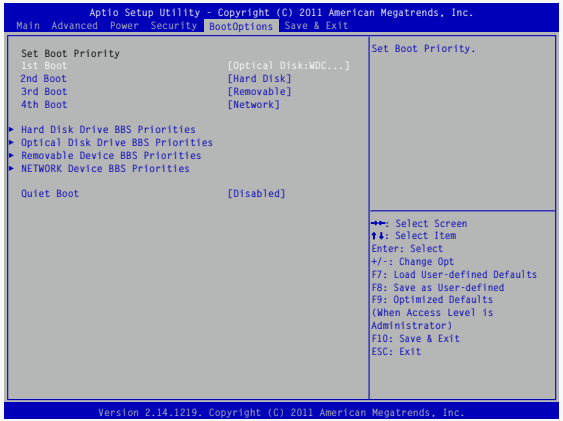
► Change Supervisor Password
This item is used to install or change supervisor password.

► Change User Password
This item is used to install or change user password.
Only when there exists an Administrator password, then this setting can be activated.

► Security option
To protect the BIOS from being changed by the unauthorized users, there is a security option provided for your choice. Only when there exists an Administrator password, then this setting can be activated.
[setup]:A password will be required to enter the BIOS.(Only check password when enter setup)
[Always]:A password will be required to enter both the system and BIOS. (Always check password)

► BIOS Write Protect
To protect the system BIOS, there is a BIOS write-protection mechanism provided to prevent BIOS FLASH tool being improperly used to update BIOS.

BootOptions

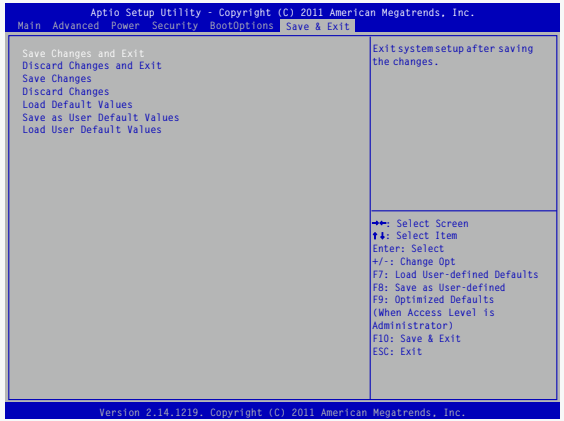

Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.
Main Advanced Power Security BootOptions Save & Exit
Set Boot Priority
1st Boot [Optical Disk:WDC...]
2nd Boot [Hard Disk]
3rd Boot [Removable]
4th Boot [Network]
Hard Disk Drive BBS Priorities
Optical Disk Drive BBS Priorities
Removable Device BBS Priorities
NETWORK Device BBS Priorities
Quiet Boot [Disabled]
Set Boot Priority.
→←: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt
F7: Load User-defined Defaults
F8: Save as User-defined
F9: Optimized Defaults
(When Access Level is Administrator)
F10: Save & Exit
ESC: Exit
Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.

► 1st/2nd/3rd/4th Boot
These items are used to set the system boot order.

► Hard Disk Drives BBS Priorities/Optical Disk Drive BBS Priorities/Removable Device BBS Priorities/ NETWORK Device BBS Priorities
Press <Enter> to go to its submenu. Use this items to specify the boot device priority sequence of the detected devices.

► Quiet Boot
This item is used to enable/disable the quiet boot.
[Disabled] : Displays the normal POST messages.
[Enabled] : Displays OEM customer logo instead of POST messages.

Save & Exit


Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.
Main Advanced Power Security BootOptions Save & Exit
Save Changes and Exit
Discard Changes and Exit
Save Changes
Discard Changes
Load Default Values
Save as User Default Values
Load User Default Values
Exit system setup after saving the changes.
→←: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt
F7: Load User-defined Defaults
F8: Save as User-defined
F9: Optimized Defaults
(When Access Level is Administrator)
F10: Save & Exit
ESC: Exit
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► Save Changes and Exit
If you select this option and press <Enter>, a message will be displayed in the screen.
Select [Yes] to save your changes and exit, select [No] or <ESC> to return to the menu.

► Discard Changes and Exit
If you select this option and press <Enter>, a message will be displayed in the screen.
Select [Yes] to exit setup utility without saving your modifications, select [No] or <ESC> to return to the menu.

► Save Changes
If you select this option and press <Enter>, a message will be displayed in the center of the screen.
Select [Yes] to save your changes, select [No] or <ESC> to return to the menu.

► Discard Changes
If you select this option and press <Enter>, a message will be displayed in the center of the screen.
Select [Yes] to discard your modifications, select [No] or <ESC> to return to the menu.

► Load Default Values

Optimal defaults are the best settings of this motherboard.
Always load the Optimal defaults after updating the BIOS or after clearing the CMOS values.
Select this option and press Enter, it will pop out a dialogue box to let you load the defaults. Select <Yes> and then press <Enter> to load the defaults. Select <No> and press <Enter>, it will not load.
By this default, BIOS have set the optimal performance parameters of system to improve the performances of system components. But if the optimal performance parameters to be set cannot be supported by your hardware devices (for example, too many expansion cards were installed), the system might fail to work.

► Save as User Default Values
If you select this option and press <Enter>, a message will be displayed in the screen.
Select [Yes] to save the changes done so far as user defaults, select [No] or <ESC> to return to the menu.

► Load User Default Values
If you select this option and press <Enter>, a message will be displayed in the screen.
Select [Yes] to restore/load the user defaults to all the setup options, select [No] or <ESC> to return to the menu.

Install OS

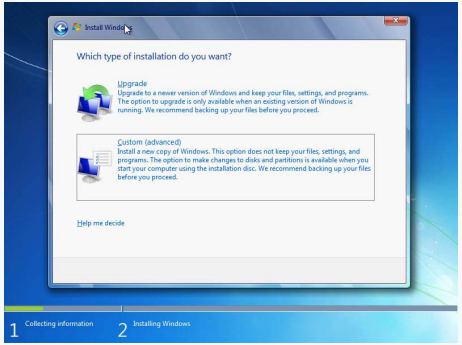
- Install Windows 7
- Install Drivers

What kinds of hardware and software you need here:

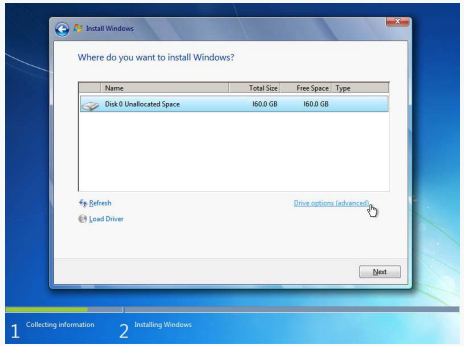
1. Windows 7 Install USB Disk / USB DVD-ROM drive and Windows 7 Install CD (Other purchase)
2. NanoPC USB Flash Disk (In this package)

4-1 Install Windows 7

1. Connect the Windows 7 Install USB Disk (or USB DVD-ROM drive) to one USB port of NanoPC.
2. Press power on button to turn on your computer, then press <Del> key to enter BIOS Setup.
3. Put the Windows 7 Install CD into the USB DVD-ROM drive. (If you use the USB DVD-ROM drive)
4. According to the devices you use, set the first boot device to USB device or DVD drives, press <F10> to save changes and exit BIOS.
5. The computer will reboot, and it will start loading the files for installing the Windows 7.
6. When the installation windows popup, set the related items and click “Next” to continue, then click “Install now” button to start the setup.
7. When the license terms appear, choose accept and click “Next” to continue.
8. It will then ask you to select the installation type. Click “Custom (advanced)” to install a new copy of Windows.

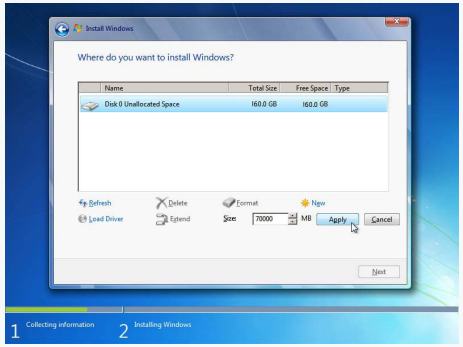

Which type of installation do you want?
Upgrade
Upgrade to a newer version of Windows and keep your files, settings, and programs. The option to upgrade is only available when an existing version of Windows is running. We recommend backing up your files before you proceed.
Custom (advanced)
Install a new copy of Windows. This option does not keep your files, settings, and programs. The option to make changes to disks and partitions is available when you start your computer using the installation disc. We recommend backing up your files before you proceed.
Help me decide
1 Collecting information
2 Installing Windows

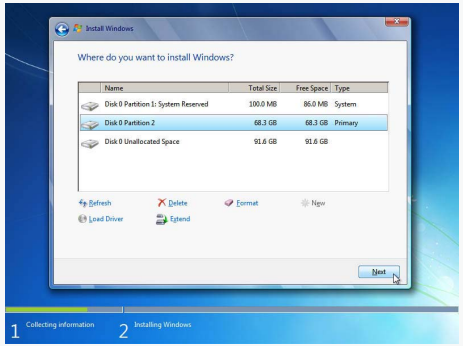
9. The setup will display the hard disk partitions (160GB, in this example) of your system. If there were other systems (such as Linux) installed previously, you need select them and click “Drive options (advanced)” to delete them. When all partitions are clean, setup will display the biggest size of your hard drive.



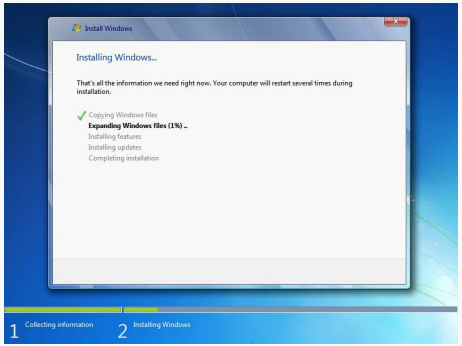
10. In the hard disk size screen, you can click the “new” button to create partitions as you need. In this example we are creating a 70GB partition to install Windows. Make your modifications and click “Apply”.

    To ensure that all Windows features work correctly, Windows might create additional partitions for system files. So you will see a 100MB partition reserved by system after you create a partition. Select the 70GB partition and click “Next” to continue.





11. The setup program will then start to install Windows 7 on your hard disk. During the installation, your computer will restart several times.


Install Windows
Installing Windows...
That's all the information we need right now. Your computer will restart several times during installation.
Copying Windows files
Expanding Windows files (1%) ..
Installing features
Installing updates
Completing installation
1 Collecting information
2 Installing Windows

12. When the installation is complete, setup will prepare your computer for it's first use. You can then follow the steps to select system settings, create an account, set a password...etc, until the whole process is completed.

4-2 Install Drivers

1. When the Windows 7 is completely installed, you have to install the necessary drivers before using the NanoPC. Connect the NanoPC USB Flash Disk to your system.
2. Waiting for a few seconds, the main menu will be displayed on the screen.

3. Use these options to install all the drivers for your system. You must click "Intel Chipset Driver" to install it first. After that, you can click ”One Click Setup” and then choose the items you want to install, or you can click on each individual driver to install it manually.
4. After installing all the drivers, you need to restart your NanoPC, then you can start using it.

Utility

- Fox WINFLASH

Fox WINFLASH

Fox WINFLASH is a useful utility to backup and update your system BIOS.

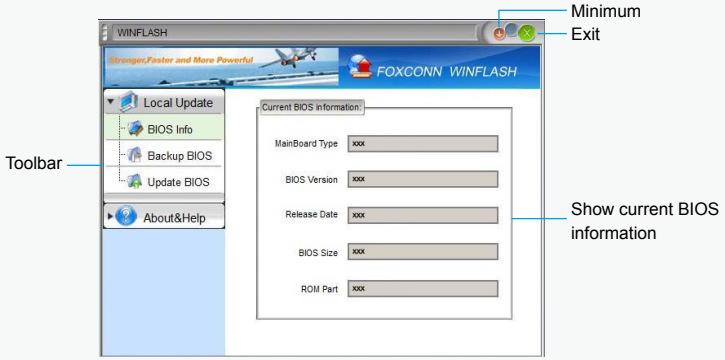
Supporting Operating Systems:
- Windows 7 (32-bit)

NOTE Please set the BIOS setting “BIOS Write Protect” or “Super BIOS Protect” to [Disabled] when running this application.

1. Local Update

1-1 Local Update - BIOS Information

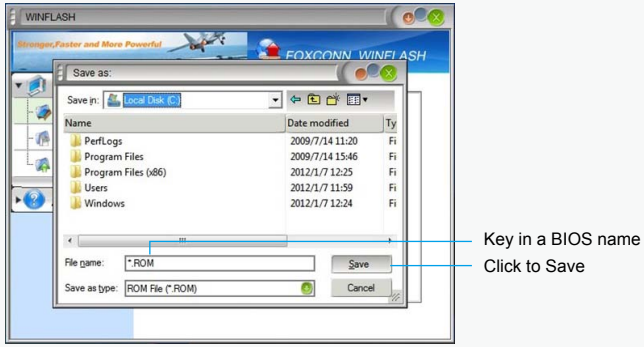
This page lets you know your system BIOS information.



Note: BIOS Size 32Mb = 32M bit = 4M Byte
BIOS Size 16Mb = 16M bit = 2M Byte
Please refer to the physical motherboard for details.

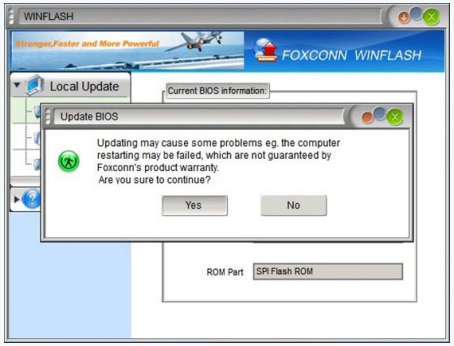
1-2 Local Update - Backup BIOS

This page can back up your system BIOS. You can click “Backup BIOS”, and key in a file name, then click “Save” to finish the backup operation. The extension of this backup file is “.ROM” for AMI BIOS. Make sure you can remember the file name together with the directory which it is stored, prevented that you may need them to recover your BIOS later.



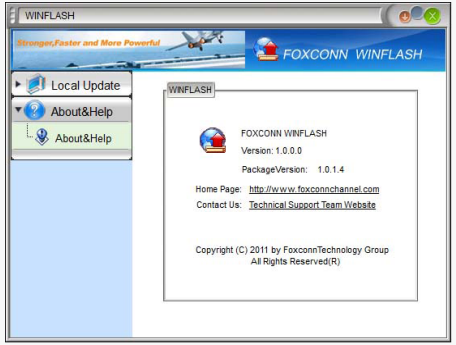
1-3 Local Update - Update BIOS

This page helps you to update your BIOS from a local file. After click “Update BIOS”, An alert message will be displayed to ensure if you really want to continue, click “Yes” to confirm. A setup wizard will guide you to load a local BIOS file to finish the operation. You must remember from which directory to load your new BIOS file (with an extension of “.ROM” for AMI BIOS) before the setup wizard starts.



2. About & Help

This page shows some information about Fox WINFLASH.



Statement:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Warning:

FEDERAL COMMUNICATIONS COMMISSION INTERFERENCE STATEMENT

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/ TV technician for help.

Caution:

Any changes or modifications not expressly approved by the grantee of this device could void the user's authority to operate the equipment.

RF exposure warning:

This equipment must be installed and operated in accordance with provided instructions and the antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter. End-users and installers must be provide with antenna installation instructions and transmitter operating conditions for satisfying RF exposure compliance.

Warning statement for Europe:

Also, put in the manual which directive to fulfil and also which countries to sell the product.
Example of a text to tell which directive has been fulfilled:
Hereby, Foxconn, declares that this AT-5000 Series is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC."